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**AGRICULTURE**

**No. 1221**



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## MAJOR CROP PROGRESS AND WEATHER REPORTING

MAKSIMENKOVA REPORTS WEATHER, CROP CONDITION 11: EARLY FEBRUARY

LDZ91013 Moscow SEL'SKAYA ZHIZN' in Russian 15 Feb 60 p 2 LD

[Report by Agrometeorologist T. Maksimenkova under the rubric: "The USSR Hydrometeorological Center Reports": "The Weather and the Crops"]

[Text] Over most of our country's European territory the first 10 days of February were warm for the time of year. It was particularly warm at the beginning of February when the daytime air temperature rose above zero almost everywhere. In connection with this, measures were taken in Krasnodarskiy Kray to top-dress winter grain crops. The temperature subsequently fell. Between 5 and 7 February the temperature fell to between minus 23 and minus 28 degrees in the middle and lower Volga areas and to minus 32 in Bashkirskaya ASSR.

North of a line joining Kaliningrad, Nogilev, Chernigov, Sumy, Kharkov, Belgorod, Voronezh, Ryazan, Gorkiy, Kazan and Perm, winter grain crops and perennial grasses were safely under 20-30 cm of snow; 55-65 cm in the north-east. The minimum soil temperature at tillering node depth stayed within the range of minus 2-minus 5 degrees.

An intensive warm spell in the southern part of the European territory led to a swindling of the snow cover. On 10 February the fields were snowfree in southern Moldavia, some western areas of the Ukraine, in Krymakiya, Khersonskaya and Nikolayevskaya oblasti, in most of Odesskaya and Zaporozhskaya oblasti and Krasnodarskiy and Stavropolskiy Krays and in the southern lower Volga area. But warm, thaw-type weather was predominant here and there was no threat of damage to winter grain crops or perennial grasses.

In eastern Vologodskaya and Kostromskaya oblasti, northern Gorkovskaya Oblast and most parts of Kirovskaya and Permskaya oblasti, where the snow is 55-65 cm deep and the soil is frozen to a depth of less than 30 cm, the soil temperature at tillering node depth kept within the range of minus 2-minus 4 degrees. The plants continued to consume nutrients in order to breathe.

The weather remained cold without significant precipitation in the farming regions of west Siberia. The average temperature in most areas was below normal, by 8-9 degrees in places. The minimum temperature kept within the

range of minus 28-minus 14 degrees. Winter grain crops and grasses were well protected by an adequate covering of snow and the minimum soil temperature at tillering node depth kept within the range of minus 9-minus 11.

The weather was colder than might be expected in the central Asian republics. For the greater part of the first 10 days of February winter grain crops and perennial grasses were dormant. They were enduring the winter well. Winter crops resumed vegetation in Azerbaijan and Tadzhikistan on occasional days when the temperature rose to 9-14 degrees.

CSO: 1824

## MAJOR CROP PROGRESS AND WEATHER REPORTING

### MID-FEBRUARY SOVIET WEATHER, CROP DEVELOPMENT REVIEWED

LD270849 Moscow SEL'SKAYA ZHIZN' in Russian 74 Feb 80 p 1 LD

[Report by Agricultural Meteorologist T. Maksimenkova under the rubric: "USSR Hydrometeorological Center Reporting": "Weather and Crops"]

[Text] Cold weather prevailed over most of the USSR's European territory in the period 11-20 February. In the Baltic republics, Belorussia, north-western oblasts of the RSFSR, the southwestern half of the central region, the central Chernozem zone, the lower Volga region, most oblasts in the Ukraine and the northern half of the north Caucasus average air temperatures in the period were 3-7, and in places 8-9, degrees below normal.

Despite the severe frosts minimum soil temperatures at the tillering node depth of winter grain crops and perennial grasses remained between minus 3 and minus 8 degrees since north of a line joining Grodno, Minsk, Mogilev, Chernigov, Poltava, Rossosh (Voronezhskaya Oblast), Rostov-on-Donu and Volgograd winter grain crops were safely covered with a layer of snow 15-30 cm deep or even more.

The depth of the snow cover over most of the Ukraine was only shallow (less than 10 cm). In Odesskaya, Nikolayevskaya and Khersonskaya oblasts and a number of other rayons in Zaporozhskaya and Krymskaya oblasts the fields were free of snow. Soil temperatures at the tillering node depth of winter grain crops and grasses remained within the optimum range (between minus 7 and minus 9 degrees).

It was warmer in west Siberia's farming regions. Average air temperatures in the period were 1-3, and in places 4-8, degrees above normal in most parts. West Siberian winter grain crops and grasses were under a layer of snow 20-35 cm deep, and in places more than 35 cm deep.

Winter grain crops and perennial grasses wintered well.

The weather was unsettled in the central Asian republics. At the beginning of the period it was warm. On these days winter grain crops resumed vegetation. Then there was a cold spell.



## MAJOR CROP PROGRESS AND WEATHER REPORTING

### SNOWSTORMS SLOW RAIL TRAFFIC IN SARATOV AREA

Moscow GUMK in Russian 25 Jan 60 p 1

[Article: "Fighting the Snow"]

[Text] Yershov--A northwest wind suddenly swept along sections of the Yershov Division and the blizzard began to rage. It did not let up for the rest of the day and all night. And at morning of the following day a heavy frost struck.

"The elements did not catch us unawares," recounts the head of the Yershov Division, V. Ugurtsov: "Operational groups were set up at the rail junctions of Yershov, Krasniy Kut, Pugachevsk, and Urbakh, while all three snow-removal machines were put into action. On the Krasniy Kut--Aleksandrov Gai section--a snow-remover plied the drifts like a skiff. Wind gusts reached 20 meters a second. The snow, like a white shroud, covered everything in sight, but the trains moved strictly according to schedule. At the inner-line and outlying junction points we received and dispatched trains on strict notice."

Many SN-2 [snow-removal machine] crews comported themselves very well. The chief of the mechanical repair shops of the Yershov Rail Division, Yu. Kolesnikov, headed up the work of one of the machines and for more than 24 hours did not leave the cab of the snow-remover. In the intervals between unloading runs he dashed into the station for a minute or two to grab a bite to eat.

Twelve hours after the end of the snow storm all incoming train tracks to the Yershov station had been cleared of snow. This was achieved thanks to the skillful actions of the crew of maintenance engineer, K. Tsurikov, and the work team of V. Marchenko. The air-powered snow-blower operated flawlessly.

Branch headquarters, in the struggle against the snow drifts, took pains to see that in all stations, depots, and rail divisions (in all, over a thousand railroad workers took part in the operation) there were heated comfort stations open and hot meals available.

Unfortunately, somewhere in the northern sections of the Volga area, there was a malfunction in rail service. Due to the switches not working properly at the Saratov junction stations, the city's electric train system was knocked off its schedule, and trains were delayed in leaving Sennaya.

## MAJOR CROP PROGRESS AND WEATHER REPORTING

### BRIEFS

**UNSEASONABLE WEATHER**--In the Northern Hemisphere winter is in full swing. But nature is ignoring the calendar. The end of the year brought us no small weather surprises. Hardly a day passed without the news agencies bearing an alarming report about destructive hurricanes, heavy snowfalls and floods, unusually high or unusually low temperature in one region or another of the Northern Hemisphere. At the beginning of December, spring suddenly arrived in Central Europe. In the forests, even buds began to open. Temperatures in our country were 3 to 10 degrees higher than they were supposed to be. And, then suddenly the warmth was replaced by a sharp cold snap. Heavy snow, causing violent flooding, fell in many regions of Western Europe and the European USSR. At the same time, unseasonably warm weather unexpectedly settled over Scandinavia. In past months, warm air from the Atlantic and Pacific Oceans was frequently pushed by a series of cyclones into the Arctic, and there determined the warm weather. [Excerpts] [Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 1 Jan 80 p 4] 9481

**POTENTIAL WIND-POWER SITES**--A survey of the violent winds which constantly blow in the area between Lake Balkhash and the Kengir River was carried out by an expedition from the scientific-industrial association, "Kassel'khoz-mekhanizatsiya" [Kazakh Agromechanization]. It has found, in this vast area, prospective sites for the practical exploitation of free energy from air currents. The most promising in terms of wind potential turned out to be the northern Balkhash region. Here, in the course of a year, the winds are capable of driving electric-power devices for almost 5,500 hours. Extensive duration of productive wind speed was also recorded in the Sayak and Zhanaark areas. This provides the possibility here for employing wind-powered devices to reach underground water supplies which lie under pastures at a depth of several tens of meters. [Text] [Moscow TRUD in Russian 23 Jan 80 p 4] 9481

**SIBERIAN FERTILIZER**--Novosibirsk, Jan 22--The siberian field is very responsive to fertilizer. Progressive kolkhozes and sovkhoses apply it yearly to grain, interrow and vegetable crops. Even now, at the harvest of the final year of the five-year plan, about 3 million tons of local fertilizers have been supplied to Novosibirsk fields. These operations are actively conducted on farms of the Kulandinskaya zone. On kolkhozes and sovkhoses in Krasnukhiy Rayon, for example, 105,000 tons of organic fertilizers has been hauled to the fields; in Krasnozerskiy Rayon 102,000 tons. In Chulymskiy Rayon, 133,000 tons of them have been put in storage. [Text] [Moscow SEL'SKAYA ZHIZN' in Russian 23 Jan 80 p 1] 9481

...the first finished with cleaning of the seed. They have an ...the high standards for sowing. This ...the seed saved by ...the regionalized varieties of spring wheat, ...will be distributed over wide areas in ...the coming years, they will completely supplant low ...[Moscow SEI 'SEAYA ZHIZN' in Russian] (Jan 30 p. 1) 1949

...the weather in the Black Sea area is distinguished by its instability. From one day to the next the temperature ...even as early as February, conditions can be ...Therefore, maintenance engineers are striving to ...at a much earlier time, and, as soon as the field becomes ...Grain growers of Cherkasskaya Oblast' know the value of ...The reliable operation of equipment is necessary in order to ...and sow grain and feed crops within a ...That is why attention has now been directed not only to the ...the quality of repair work. Every machine comes out of the repair shop onto the reading line with a guarantee of flawless operation in the field. [Excerpts] [Moscow SEI 'SEAYA ZHIZN' in Russian] (Jan 30 p. 1) 1949

## LIVESTOCK FEED PROCUREMENT

### INCREASING BEEF PRODUCTION WITH SUGAR-INDUSTRY WASTES

Kiev SIL'S'KI VISTI in Ukrainian 22 Jan 80 p 2

[Article by V. Kuznyak, manager of the Interkolkhoz Department on Meat Production, Oblast Agricultural Administration, Vinnitskaya Oblast: "Meat Complexes Attached to Sugar Refineries"]

[Text] Interfarm meat cattle fattening enterprises in our oblast fulfill an important role in the successful accomplishment of the planned production and sale to the state of meat, particularly beef. Last year they provided for an almost 50-thousand quintal increase in beef.

These enterprises are active in 19 rayons. They were formed in place of fattening centers attached to sugar refineries. These had little potential and were, therefore, consolidated in a number of places where there were two or three. As a result, the service and administrative personnel was reduced considerably, expenses were centralized, and transportation, the physical plant and capital investment are being utilized more effectively. The rebuilding permitted also considerable improvement in technology.

This was 3 years ago. In this comparatively short time new feeding complexes were built on 12 interfarm enterprises to feed simultaneously 7,000 heads of cattle. Subsidiary and living quarters were put in order, as well as mixed feed warehouses, pulp pits for 240 thousand tons and feed yards.

In their economic-financial activities, these enterprises follow rules on interfarm fattening enterprises, approved by the oblast kolkhoz soviet and agreements with kolkhozes on supplying cattle for fattening. Production consolidation in order to utilize more rationally the sugar industry waste is the basis for this cooperation. Pulp and molasses are, of course, difficult to transport and kolkhoz distance from the refineries is considerable. This led to unnecessary transport expenses, lowering of nutrition value and thus increase in feed costs. Calculations have shown that to transport a quintal of feed units of pulp and molasses, farms spent 3 times or more than interfarm enterprises. Now 80 percent of the pulp is sent through special pipelines.





Qualified experts with titles and orders. Workers in the Berezhansky interfarm enterprise have a good name. Ivan Mykhailovych Dikachuk and Hnat Romanovych Zerkovskiy take care of 100 animals and achieve high records. Last year they fed 1,100 heads of cattle each weighing 450 kg. Average daily increase per head was 1,000 grams. They have followers and rivals in the competition. Stepanenko Mykhailovych Kostenko, Ul'ian Mykhailovych Ponomir, Nataliya Pavlovna Rudyak and Martin Petrivna Shvachuk.

The program of the whole working collective rests on the success of cattle breeding. In the fourth year of the five-year plan the gross increase amounted to 4,170 quintals. The average daily weight increase of each animal was 141 grams higher than the year before last. The enterprise sold a total of 18,11 quintals of beef to the state, 38 percent of cattle reaching higher fattening. The average weight of each head was 441 kg. The attention is given in the enterprise to work organization and work pay, material and moral incentives are provided. Every month the competition is summed up, winners receive monetary rewards and bonuses.

Excellent raising experts at the Bilohorsky enterprise also merit attention. First comes, there is Antonia Pavlovna Vlashtyn who achieves a 1,250 gram weight increase for each animal every 24 hours, and provides to the state higher fattening cattle at 500 kg each. Following this foremost worker closely are also Antonina Aleksandrovna Kovalevych and Nadiya Pavlovna Dikachuk. At the Barsky enterprise Vera Iosypivna Gudnyk, Kateryna Gavrilovna Lyubars'ka, Volodymyr Pavlovych Rudyak also work well.

Being part of the all-union socialist competition, interfarm enterprise workers are making an effort to feed 20 thousand heads of cattle in the last year of the five-year plan.



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11/10/61 The day-laborer paymen committee under worker's committee has until  
11/10/61 recently a large amount of vegetable waste--namely some cucumbers,  
tomatoes, cabbage leaves and trim--damaged potatoes--was removed to the  
cannery from the local government office warehouse. If a form picked up  
these waste it was thrown out. Many leftovers from the public dining table  
were added to the dining room of the rayon consumer union.

It never occurred to these producers of the field earned with hard work, earnings at the procurement office offered to building livestock raising complex in the warehouse. The chairman of the farm consumers union, M. S. Korotkiy, and the director of the procurement office, B. A. Berkus, contributed a lot of energy to the building and formation of the livestock raising collective farm part and soviet organs also helped in this important matter.

As soon as this sample was finished, it united a leader farm for 600 head of sheep, a young animal, a poultry farm, a rabbit farm of 1,000 heads, and a feed lot. A planned, rhythmical fattening was introduced. All feed coats will enter the feeding area and thermally treated first.

2. The great cooperators have now summed up the accomplished work. Instead of 12 nests, and 171 eggs for hatching, 1,061 were sent in. One thousand and ninety-two quail and pairs were produced. In place of the expected 120 quail, a 767 quail nest increase was attained. Forty, 10,000 of poultry were also produced.

Productive rabbit farm is also being organized by Bulgar cooperators. This year the plan is to raise 3,000 rabbits. A reconstruction of the cooperator's farm is also being commenced, which will permit the cooperator to obtain 100 tons of production per year from their own meat.

The "chipped" or "Balkin" and "beverage" domestic sausages have long been considered the best in the Queen area, very popular among the population. Therefore, we consider it very important to fulfill our goal of methodically increasing the production and to improve the procedures for domestic sausage preparation.

Meat production in food wastes is also economically practiced by cooperators on the Kudymsky farm. At first they kept the cattle in quarters adapted for this purpose. Having accumulated funds, construction of substantial animal stalls began. Now the Kudymsky rayon procurement office has a pigsty for 100 sows, and a stall still for 200 heads. Recently, the rayon consumer union collective started the construction of a poultry farm. The Kudymsky rayon cooperators also successfully fulfill the projected goals for meat production. Their yearly quota for pork increase was met ahead of time.

Creating centralized farm workers at the Shyryayevsky, Kiliysky, Koshilovskiy rayon, consumer unions rationally utilize adapted quarters.

A good example of meat production organization was shown by the workers of the small animal farm oblast consumer union, headed by an experienced manager N. F. Andreyevich. They constructed a summer-type poultry yard and using inexpensive feed obtained 138.6 quintals of dietetic production during the year. Shoppers at store No. 12 on Lenin Street in Odesa found the small poultry meat very tasty.

Good organization of animal and poultry feeding with food wastes permitted a considerable increase in meat production during the year on farms of the oblast consumer union. Pork increase projected at 2,500 quintals reached 2,800 quintals. A total of 4,941 quintals of pork was obtained. The yearly meat and poultry production was more than doubled. Farms sent 601 quintals of it to the workers' tables. Sixty-nine heads of meat cattle was assigned for fattening in addition to the projected figure.

The oblast consumer union administration continuously supervises the cooperator collective in their fulfillment of the goal in the increase of meat production. The main concern is about equipping the farm with cadres of qualified specialists, and the organization of an appropriate anti-veterinary supervision for the animals and poultry.

By accelerating the meat production tempo on oblast consumer union farms, we have an opportunity to double meat production already in the 11th Five-Year Plan. This matter cannot be completed, though, without continuous attention and the concrete help of local soviet and farm organs. In particular, the feeder farm office collective needs to have space assigned for farm buildings and for enclosures into for the animals. Unfortunately, this problem is not yet solved everywhere. The rayon consumer unions lack specialized vehicles for transporting food wastes. There is not enough machinery and equipment for thermal treatment of food wastes and farm mechanization.

Equipment was supplied by the United Agricultural Technology Service and  
provided the first section of smaller size equipment for small holder farms  
and small farms. This equipment was sold continuously. Collective  
production of such equipment should be arranged. It would be desirable  
to provide other equipment for our farms also, machinery produced by our  
own industry.

1951

1952 1953

## YAKS

**YAKS IN KARAKUL REGION--**Annihilated. As the owner has looked to the pasture lands in the republic's Laryn' & Yakul-breeding rayon, the Kuznetskiy. The livestock have been transferred to pen confinement. An adequate insurance reserve of coarse fodder, hay and concentrates has been created in the republic. [Text] [Moscow TRUD in Russian 15 Jan 60 p 1] 10000

**YAKS IN CAUCASUS--**This fall in the alpine zone of Dzhavakhi Rayon in the forests, on alpine and subalpine meadows, large horned animals began to appear which hitherto had not resided here. The residents were lost in conjectures, but soon everything was explained: it turns out that yaks were brought here, the hunting of which is strictly prohibited. "Yaks in the Caucasus? In Dzhavakhi Rayon?" This is the question addressed to chief zootechnician of the administration of agriculture of South Ossetia, M. Valiyev. "Yes, yaks," confirmed Murat Semeyevich. "Recently they were brought here from the Kirgiz SSR. In Dzhavakhi Rayon, just as in certain other places in the oblast, from year to year large masses of high alpine pastures with a rich grass stand remain unutilized. Due to the severe climate the livestock grass on these lands for a very short time. Some of the pasture lands adjacent to the zone of endless snow are not used at all for pasturing domesticated livestock. Yaks by their very nature were created for life under high mountain conditions. In our country they are raised in the mountain regions of Central Asia and in Checheno-Ingushetia. This half wild animal is distinguished by exceptional hardiness, sturdiness, and great adaptability to high mountain conditions. Yaks are on a pasture regime year-round, they do not require housing or procurements of fodder, except for an insurance reserve in the case of a severe winter. In the summer the yaks go up to the zone of eternal snow and graze on the slopes of mountains not accessible to domesticated livestock. In the winter they descend, preferring the southern slopes of the mountains. They reach the feed even with a snow cover of 20-25 centimeters, travel easily through the mountains. They have strong hooves, and on the bottom part there is a horseshoe-shaped projection made out of a strong horny substance, with the aid of which they hold on firmly to steep slopes. The female has one calf per year, and calving is from March to May. Despite the fact that it occurs under the open sky and with unstable weather, the newborn calves easily withstand the low temperatures, winds and even snow storms. The state takes the yaks from the farms according to purchase prices set for cattle, and it comes out to 30-40 rubles per quintal of weight gain. The yaks are not in danger from wolves and other predators. They know how to protect themselves from these." "How are the yaks doing in the new location?" "Excellent. It can already be said that the climate of Georgia suits them and they are not longing at all for their native lands." [Text] [Tallin ZARJA VOSTOKA in Russian 16 Dec 59 p 4] 10000

...the winter has suffered from drought. The sheep and cattle have suffered from lack of food. The grass state at the moment was really... The vegetation survived under the liberal sun only where the last rain... after a long time... free... On the irrigated... the animal proprietors... they stacked the... and put haylage in the trenches. However as a whole the farms of the... ASSR far from fully provided themselves with coarse fodder, concentrates, and vitamin-enriched grassy meal. Meanwhile transferred to... were 70,000 head of cattle, and in the sheepfolds there are almost a million sheep. The responsibility of the animal breeders for the keeping of this livestock is great. We can understand there is not enough fodder, and there was a drought. But, for example, why is a republic covered everywhere with forests, is coniferous meal measured out in larger doses for the feed ration, and then not everywhere? Dozens of timber procurement establishments, and the Kalmykian Association at its own cutting areas have tons of coniferous needles along with other... a year ago in Khorkimkiy Rayon a special shop for production of coniferous meal was finally started. Now, as was reported to the... Ministry of Agriculture, the shop is closed. They say that the meal is produced was much too expensive. But now at the cost of the needles to brought up to the cost of grain concentrates if the enterprise is located in the forest and uses free wastes? In the ministry they have... their shoulders. ...The lack of organization in the wintering procedure is inherent in many farms and rayons. Hence we have the low productivity of public animal husbandry. The milk yields at the farms have dropped, and it is unnecessary to talk about weight gains of the livestock. The republic has not fulfilled the annual plans for deliveries of milk and meat. Under such complicated conditions it is intolerable to forget about the needs of the people working on the farms. However in the stores of the consumer's cooperatives, or the cattle shops, you cannot find goods that are in very wide use. But yet not so long ago at a meeting of the Bureau of the party oblast committee, representatives of Birkoop-ovaya [Karyal Union of Consumer Cooperatives] gave the assurance that their services are meeting the needs. The established situation can be corrected under one condition: it is necessary everywhere to increase control over the course of wintering, more strictly to hold the leaders of rayons, districts and kolхозs, and specialists responsible for each case of mismanagement, and to help the farm workers to organize effective competition for attaining the best results. [Excerpts] [Moscow PRAVDA in Russian] 1950 p. 1

**REBUILDING FARMS**--L'vov. The meat conveyor has been started more rapidly at public breeding farms in the oblast. Here the period of fattening the livestock has been reduced by four months. L'vov animal breeders decided to use the... farms with the highest return. Scientists are helping them to this. Developed jointly with them was the optimum structure of the fodder base, and recommendations for use of concentrates, mineral additives, and stimulants of the growth of young stock. Rebuilding the facilities aimed to mechanize the labor and increase the number of livestock. [Text] [Moscow SOVIETISTICHESKAYA INDUSTRIYA in Russian] 12 Dec 79 p. 1 1950



**SKIF PULVER FOR DOPETS-BASIN.** A new fodder crop, "skif," has been offered in the countryside by scientists of the Donetsk Botanical Garden of the Ukrainian SSR Academy of Sciences. "Skif" is a local form of red clover, found in the Donetsk steppe, that has been cultivated by the botanists. Its first crop on industrial plantations, which were located at 17 farms of the oblast, during the present early summer yielded from 110 to 250 pounds of green mass per hectare. The aforementioned new settler, grown on unirrigated land, proved to be much more high-yielding than all the varieties of alfalfa cultivated in the Dnepro Basin on irrigated lands. (Trav) (Pravda ZDOR in Russia, 10 Jul 70 p 1) 10000

**THICKEN FODDER PROBLEMS—Tatarskaya Oblast, Turkmen SSR.** A rise in animal breeding for the oblast as a whole has been noted. By comparison with last year, for instance, the volume of milk procurements was increased by more than 400 tons, the amount of livestock and poultry turned over was 23 tons more than provided by the plan, and almost 2 million more eggs above the plan were produced. Farms of Il'yailinskij and Leninickij rayons also made a considerable contribution to this labor victory. Many households, having markedly strengthened their fodder base, pursued the construction of modern mechanized farms, and rejuvenation of the herd. However far from all the reserves have been exhausted. The chief one of them is the quality of fodder preparation. In the past year there were gross violations of technology in silage making at many farms of the oblast. For this very reason 1,000 tons of silage were considered congrate. Moreover, as was established by the oblast people's control committee, the managers of certain farms made upward distortions in the reports. Thus, inflated in Tal'marskij Rayon were 98 tons of silage, 152 tons of haylage and 82 tons of coarse fodder. Facts of deception were detected in the farms of Kalininskij, Taldinskij, Kurya-Urusskij and certain other rayons. It is not hard to imagine the position in which the public herd would be there if the winter is drawn out. It is necessary immediately to procure fodder in those rayons and oblasts where there are surpluses. It is still not too late to correct the matter. And those who took part in the deception should be punished with strong measures. (Excerpt) (Pravda TRD in Russia, 10 Jan 69 p 2) 10000



## LIVESTOCK

### PROGRESS WITH LIVESTOCK PRODUCTION EFFICIENCY

Alma-Ata. VEL'SKOYE KHODYAYSTVO KAZAKHSTANA in Russian No. 11, Nov. 79 pp. 2-3

Editorial: "Perpetually Increase the Efficiency of Livestock Raising"

Feed. It is still autumn in fields of southern and southeastern oblasts of the republic, but winter has already come to livestock farms and complexes of central and northern oblasts. Cold, wet weather has forced livestock raisers in these areas to change over to indoor winter maintenance. Pastures and farms are again the work headquarters for shepherds, herders, animal raisers, and milkmaids. There is no let-up here these days, not for a minute. The feed processing shops have begun operation.

Even though autumn fodder still predominates in the animal rations, many enterprises are also giving it to the animals after preliminary processing in order to increase palatability. Stocks accumulated by feed procurement workers in the hot summer time are in reserve. One should consider that the majority of enterprises (which have been able now as never before to utilize favorable opportunities for procuring adequate feed stocks) are making wise use of what they have procured, are raising livestock productivity to new levels, are increasing herd numbers and are compensating for the shortfalls of meat and milk in processing months.

After steadily developing socialist competition under the slogan "One and one-half to two years' supply of feed for each farm!", the workers of many enterprises have honorably fulfilled their socialist obligations for procurement of hay and other feeds for public cattle. They are persistently and efficiently accomplishing the task assigned by the 25th CPSU Congress and its subsequent Central Committee Plenums of increasing production on farms and complexes to the utmost.

Kazakhstan grain workers have achieved an outstanding new labor victory through raising 1.85 billion pounds of grain for the Motherland.

Working the lands of collective and progressive republic enterprises, now, tens and hundreds of Kazakhstan sovkhoses and kolkhoses have successfully fulfilled the plan for supplying feed to livestock farms. Almost

newer breeds, more modern (old, rough and inefficient) have been used in less in previous years.

For example, in 1967 our enterprises on a collective had produced 10 million tons of hay and 2.5 million tons of haylage; this is much more than was stipulated in the plan. Such a significant quantity of valuable feedstuff has never before been gathered in the republic.

As was already reported, the enterprises of Chirchikinskaya Oblast exceed the goal by 1,760 tons. Sustanayskaya Oblast stocked 1,177 tons on Teelingradskaya--1,111 tons. Sovkhozos and kolkhozos in Sovetskaya, Kazakhstanskaya, Lokostavskaya, Zhenskanganskaya, Chirchikinskaya and other oblasts significantly overfulfilled the plan for feedstuffs. In seven republic oblasts, the haylage plan fulfillment stood at 170-200 percent while in four oblasts, results were more than 10 times the plan. Kazakh sovkhos and kolkhos have produced more than 200,000 tons of vitamin enriched herbage; this is much more than was produced last year. Exemplary in this regard were the enterprises of Sovetskaya Oblast: they produced more than 1,000 tons of hay.

More silage has been produced this year than in previous years. Republic sovkhos and kolkhos have stocked 24,000 tons of silage, including 1,775 tons in Sustanayskaya Oblast, 1,200 tons in Teelingradskaya Oblast and 1,000 tons in Lokostavskaya Oblast.

Maintaining feed supplies combined with efficient and capatic feeding has resulted in reaching the high socialist goals set by livestock workers at many enterprises. Thus collectives of the "Prennagor'kovskiy" Sovkhoz (Sustanayskaya Oblast), the Sovkhoz named Newspaper "Pravda" (Ural'skaya Oblast), the Sovkhoz named 22nd Party Congress (Chirchikinskaya Oblast) and several others, all of whom came out ahead in first six-month socialist competition for their regions, are continuing to increase meat and milk supplies to the state. Farms have begun their winter maintenance here with 18 to 2 years' supply of hay, haylage and herbage. Sovkhoz work units for feeding distribute several tons of quality hay per day--enough for all cattle and other livestock at the sovkhoses. Each of these enterprises has 4-10 thousand head of cattle, and each produces 10-15 thousand tons of meat annually.

Our journal has already reported (No. 7, 1979) that putting livestock raising on an industrial basis, concentration and specialization in production and improved feeding have all allowed the "Prennagor'kovskiy" Sovkhoz, the Sovkhoz named Newspaper "Pravda" and others to make widespread use of open feedlots for cattle during summer. The first such lot, at the "Prennagor'kovskiy" sovkhos, for 1,000 head of cattle, was completed more than 7 years ago. It is divided into sections, each containing about 200 calves. At each lot, a brigade of herdsmen feed about 1,000 or more head annually; they attain approximately 1,100-1,200 quintals of weight gain. Inputs per quintal of gain are 2,000-2,500 man-days and 100 feed units. The cost per quintal of gain has been found to be RS9.71.

meat, which is processed into the very efficient of the "Mushkovskiy" brand, Moshkovskaya plant. Their average weight per slaughter animal last year was more than 970 kg. During the first three years of the three-year plan, this enterprise sold to the nation more than 5,000 tons of meat. The "Mishkovskiy" brand, Moshkovskaya plant, is famous for its highly productive cows. In 1976, this enterprise averaged 3,000 kg of milk per cow per year, but in 1975, it obtained 3,430 kg. The yield per cow has gone to the level.

Results of milk yield gain have been registered by cattle on feed at the Moshkovskaya plant enterprise association in Moshkovskaya plant. The typical milk weight per animal there is 467 kg. Livestock figures at the K. I. Lenin Lenin Party Congress in the same plant are also shown only in the tenth five-year plan. Over the past three years, they increased the milk yield per cow from 2,720 kg to 3,173 kg.

Livestock breeding at many enterprises in Tselinogradskaya plant is well developed. At the plant J. V. Lenin Lenin Party, which led by automatic control and, on average, milk weight per cow is upwards of 400 kg per last year and the first half of this year. Tselinogradskaya plant delivered 1,000 tons of live weight of milk in 1976. Their feed base and weight gain was 5.5 quintals in feed units. Profits received from milk were equal to 15,000 rubles.

It is also noted that many realistic enterprises have truly realized opportunities and improved the increasing livestock production, and milk production.

As a result, because of widespread and persistent utilization of available resources and reserves that many enterprises in Kustanayskaya, Kurganinskaya, Kurganinskaya, Tselinogradskaya, Almatinskaya, Sar'yevskaya, and Moshkovskaya plants are proving successful in meat and milk production. For example, approximately half the cattle and horse herds have been put into industrial systems in Tselinogradskaya, Kustanayskaya and Kurganinskaya plants. In Tselinogradskaya plant alone, there are currently 15 livestock enterprises, including 11 for milk, 6 for breeding and raising cattle, and 2 for horse raising. The Tselinogradskaya and Kurganinskaya plant production associations have been set up and are operating successfully. After reconstruction of farms, the livestock from almost 100 livestock raising locations in this plant were transferred to main farms with progressive technology. In the whole of Kazakhstan we now have 100 specialized enterprises for milk and beef production; more than 60 enterprises for horses, 33 for raising, and in poultry raising, approximately 10 enterprises; 100 for raising and inter-rayon specialized enterprises for breeding, feeding and finishing cattle. Their production is about 1,500,000 and 1,500,000.

Consequently, the transition of livestock raising to an industrial method has resulted in marked increases of labor productivity and production efficiency and reductions in inputs and production costs.

breeding of cattle, it must be said that increased value depends largely on the rate and quality of milk production. Unfortunately this problem is not being sufficiently attended to at many enterprises and kolхозes. Shortages can be quickly overcome by putting all prospective animals into the dairy herd. In replenishing milk stock, it must be remembered that now we need not just pure stock but also stock suitable to industrial methods of livestock management. Enterprises in Kuybyshevskaya, Chuvashskaya and Tatarstan areas are still not obtaining enough calves. At many enterprises in these and other oblasts, many cows still remain barren. Last year in Kuybyshevskaya Oblast, for example, only 4% calves were born per 100 cows; about 2 percent of the cows were completely barren.

It is urgently required that in the near future specialized enterprises be set up (wherever they do not already exist) for raising heifers which give assurance of high milk yields. This will contribute to quick replenishment of the dairy herd, to an increase in productivity and to reduction in costs of milk production.

Swine raising is an important reserve for increasing meat production in the country. In the recent past many enterprises were forced to reduce their swine raising, which had an extremely negative effect on swine production. Now we are being urged to build up the raise-to-grow branch of livestock raising and to increase pork production. Pork production has increased with the use of meaty, byproducts. However, the tasks confronting the republic's livestock enterprise require their increased attention to this sector of livestock raising, and require the acceleration of the conversion of swine enterprises to a higher level of enterprise organization—the creation of specialized and concentrated lines for turning out highly productive commercial hybrids, mainly meat and bacon types.

Sheep raising is an important sector of our republic's livestock industry. The volume of swine production in Kazakhstan makes it a major meat supplier in the union. The central, southern, western and eastern oblasts of the republic are furnishing good examples of the utmost improvement in sheep raising. These oblasts are carrying out a number of planned measures. Each year they obtain better results in raising these animals and they increase their productivity.

However, the experience of progressive herdsman and of advanced sheep raising enterprises indicates that enormous resources there are for reaching Tenth Five-Year Plan targets successfully and for attaining procurement levels planned for 1965. Nevertheless, at many enterprises, these reserves are being used very poorly. For a long time, the breeding program at many enterprises in Tselinggradskaya, Turkestanaya and other oblasts has resulted in low yields. Both the survival and the disposition of cattle for so-called internal enterprise needs are distasteful livestock managers. Such a harmful and harmful practice must be firmly prohibited. Responsibility must be heightened in the part of enterprise managers and specialists for developing this important sector of the rural economy.

of livestock production and the level of livestock production and husbandry efficiency is essentially based feeding system which takes into account the animal's needs and technological conditions. Industrial methods of production in livestock raising have radically changed, and accordingly, the technology of feeding. Naturally, this affects the composition of rations as well as methods of procurement, storage and processing of feeds.

Statistics show that efficient livestock feeding at enterprises and farms requires substantial use of feed crops that contain all necessary nutritive elements and the mechanization and automation of feeding processes. In feeding livestock during the winter maintenance period, it is essential to make use of granules, pellets and other high quality feeds which have been prepared by our livestock farms this year. Production of these feeds must be closely organized in the feed workshops and sized feed plants in the future in the near future.

It is necessary to attain greater effectiveness in raising livestock and to ensure continuous improvement of product quality and without making mistakes in all sections, at all stages of production. Therefore, it is the duty of all enterprise managers and specialists to improve steadily the cultivation of careful care at livestock farms and enterprises, and to ensure and improve the relations of enterprises and managers with processing and trade organizations.

Livestock farms are entering a crucial winter-wintering. The efficient wintering depends on the degree of feed loss. Future success in wintering depends on their experience and ability. We will ensure livestock wintering efficiently, and we will do everything to see that a firm base is established for a new upswing in livestock raising.

Editorial "Kazakhskaya Pravda", Kazakhstan, 1978

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CANALS OVER FINISHING FIVE-YEAR PLAN CITED

Moscow. EKONOMIKA SEL'SKOGO KHOZ'YAYSTVA in Russian No 1, Jan 80 pp 6-8

[Article: "On the Edge of 1980"]

[Text] The concluding year of the 10th Five-Year Plan, 1980, has arrived.

The past four years of the five-year plan were years of strenuous, selfless labor by agricultural workers which marked the new achievements in carrying out in practice the agrarian policies of the communist party.

In accordance with the resolutions of the 25th CPSU Congress and the July (1978) Plenum of the CC CPSU for 1978-1979, a strengthening of the material and technical basis of agriculture has taken place. Branches have been equipped with more high efficient tractors, vehicles, machinery and supplies of mineral fertilizers; herbicides, and other resources have been increased. During the four years of the 10th Five-Year Plan, energy capacity in agriculture grew by 33 percent compared with 1975. Basic production funds of the branches have increased by 28 percent and currently amount to more than 200 billion rubles. During 1976-1978, 2.4 million hectares of drained (including renovated) land were brought into use on kolkhozes and sovkhozes. The planned program for transforming the nonchernozem region is progressing successfully. The average annual volume of gross agricultural output during the elapsed years of the 10th Five-Year Plan grew by 10 percent compared with the 9th. The average annual harvest of grain and the production and purchase of raw cotton, sugar beets, fruits and berries, tea, vegetables, and other agricultural produce have increased.

"Changes in the rural area, the party's energy and will, and the valiant labor of the people," noted Comrade L. I. Brezhnev at the November (1979) Plenum of the CC CPSU, "has made it possible to achieve an average annual gross harvest of up to 200 million tons of grain during the four years, which is almost 27 million more than in the 9th Five-Year Plan. Even in the present and very difficult year, 179 million tons of grain have been harvested."



The collectivized farms achieved a record harvest of grain in 1979, setting levels in 1,265 million tons of grain, an exceptionally good one. The farmers of Ussuriyskaya Oblast who sold 1,000,000 tons of grain to the state added a significant contribution. The other and Ussuriyskaya Oblast, Amurskaya, Khabarovskaya, Kamchatka, Leningradskaya, and L'vovskaya Oblasts, and a number of other of the country's republics and oblasts successfully coped with the grain harvesting plans. The agricultural workers of the Belorussian and Estonian SSR's, and of Kirgizskaya, Leningradskaya, Nizhnyaya and a number of other oblasts, gained a high harvest of potatoes and successfully fulfilled the plan for selling it to the state. The kolkhozes and sovkhoses of the Ukrainian SSR accomplished the harvest in an organized manner and met their socialist commitment for selling the state grain, raw cotton, grapes, vegetables, fruit crops, potatoes and tea. By and large, the plan was fulfilled throughout the country for the purchase of raw cotton, fur, wool, karakul fur and several other products.

It must be noted that to a significant extent, severe weather conditions influenced the results of agricultural production in 1979. The prolonged drought which embraced vast regions of the USSR, the Ukrainian and Belorussian SSR's and a number of other regions of the country, as well as the hard frosts during the winter of 1978-1979 in a significant area of the European part of the country brought substantial losses in grain production and the pasture economy. This affected the development of certain regions in great measure.

In the USSR Five-Year Plan, our country's animal husbandry is developing under complicated conditions. As a result of a sharp decline in feed production in the worst harvest year of 1975, the pace of production slowed down in livestock and a reduction in the stock of large and poultry husbandry. The total stock of cattle and poultry was reduced by 1.5 million conventional head in 1976 compared with 1975. The current five-year plan started with a reduction in the production volume of all kinds of animal husbandry products. Compared with 1975, meat production in 1976 declined by 1.4 million tons (dressed weight); milk by 1.1 million tons; eggs by 1.1 million units; and wool by 12,000 tons.

The results of the 1977 drought have been eliminated thanks to a great amount of help from the government in the material and technical equipment of agriculture and to the efforts of kolkhozniks, sovkhos workers and employees, red party, council, and agriculture organ workers. The 1978 level in milk and egg production had already been attained in 1977, in some and even in 1976. During the elapsed four years of the five-year plan, further growth in the production of animal husbandry products was observed that is in keeping with the resolutions of the July (1978) Plenum of the CPSU.

According to preliminary data, the average annual production of meat increased by 6 percent compared with the 900 Five-Year

Plan will be 5 percent, eggs by 20 percent, and wool by 4 percent. State purchases of the stated kinds of products increased.

The November (1979) CC CPSU Plenum outlined new boundaries for the further development of our economy. The CC CPSU Plenum and the second session of the Supreme Soviet of the USSR discussed the projects of the State Plan for the Economic and Social Development of the USSR and the USSR State budget for 1980. Corresponding resolutions and laws were adopted.

The state plan for the country's economic and social development for 1980 stipulated a further development of the agrarian sector of the economy. Some 17 billion rubles of the state and kolхозes are being channelled to these goals.

The following amounts of agricultural equipment stocks, transport equipment, and other vehicles for villages were outlined: tractors, 344,000 units; grain combines, 117,600 units; trucks, 270,000 units; agricultural vehicles, 5.9 billion rubles' worth, including 2.25 billion rubles' worth of vehicles for cattle breeding and feed production. In this case, the 1976-1980 five-year plan for the procurement of the stated equipment will be fulfilled primarily because of some overfulfillment of tasks in previous years.

By the beginning of the 11th five-year plan, the tractor fleet in agriculture will amount to 2,720,000 units versus 2,336,000 in 1979; grain combines, 775,000 units versus 680,000; trucks, 1,890,000 versus 1,626,000.

It is necessary for the Ministry of Agricultural Machine Building and other machine-building ministries to take measures in 1980 directed at increasing the production of powerful tractors of the type T-700, T-100, T-130, and T-150; and to create the necessary capacity for producing high output fodder harvesting machinery and machinery for cultivating and harvesting vegetables, fruits, and other agricultural crops and for applying mineral and organic fertilizers.

Fulfillment of the goals of the 10th Five-Year Plan for agricultural development and for growth in the production of agricultural products depends in significant measure on realizing chemical and amelioration measures. During the five years, kolхозes and sovkhoses will be supplied with about 400 million tons of mineral fertilizers, almost 100 million tons more than in the 9th Five-Year Plan. Agriculture will receive 80 million tons of these fertilizers in 1980 (which will amount to 7.4 quintals for each hectare of plowed field) and 512,000 tons of chemical agents for plant protection, including 212,000 tons of herbicides. According to the norms approved in the 10th Five-Year Plan, for each ton of mineral fertilizer applied, an increase of grain in the amount of one ton is achieved, of feed, 1.3-1.5 tons of feed units; sugar beets, 6.9 tons, etc. The highest effectiveness in the use of mineral fertilizers is achieved on irrigated lands and in regions of adequate moisture such as the nonchernozem zone of the RSFSR, the Baltic republics, and the Belorussian SSR.

...of fertilizers. The utilization of organic mineral fertilizers, particularly manure, will be increased to 10,000,000 tons of lime and materials will be prepared in agriculture in the current year, making it possible to use about 10,000,000 hectares of acid soils. At the same time, boldness and optimism will be applying more organic fertilizers.

The determined battle against fertilizer losses outside the factory is well known ought to be a task of primary importance. This problem is complex and the efforts of the workers of the chemical industry, transport firms, and the Soyuzsel'khimbiyaya Association, which has been created within the USSR Ministry of Agriculture organization, as well as local agricultural organs, kolkhozes, and overhouses ought to be directed to its solution.

Land improvement is one of the important factors in intensifying agricultural production and in achieving stable harvests independent of weather conditions. Hence, improvement will create that practical foundation on which all other resources for intensifying agricultural production are used with maximum success.

Through state capital investments, 750,000 hectares of irrigated lands, 100,000 hectares of drained lands, and about 1,000,000 hectares of flooded lands are predicted to be brought into use in 1981.

Continued and more intensification of land improvement. It is necessary however to draw attention to improve the utilization of improved land and eliminate the loss which has been permitted in their economic development. It is possible to achieve this primarily by improving the operation of the department of the utilization organizationally, the construction on farms located on improved lands and facilities for production and non-production purposes.

Based on results actually attained during the past four years of the Five-year plan and the plan for the economic and social development of the USSR which was approved by a session of the USSR Supreme Soviet, production of grain to the amount of 235 million tons is projected, raw cotton, 5.0 million tons; sugar beets, 95.5 million tons; vegetables, 15.0 million tons; fruits and berries, 10 million tons; and grapes, 1.0 million tons.

The average annual meat production (dressed weight) in the 10th Five-Year Plan compared with the 9th Five-Year Plan, ought to increase by more than 1 million tons, with 6.2 million tons, eggs by 11.6 billion units, and wool by 20,000 tons.

Along with the growth in grain production, it is necessary to pay attention to the composition, once having assured the fulfillment of the collection plans for purchases of corn, buckwheat, millet, and other crops. The provision of high quality raw cotton and an all-out increase of long-staple cotton ought to be the main concern of all the country's cotton growers.

Successful solution of the problem of providing the population with meat and vegetables will depend on the speediest accomplishment of the conversion of vegetable growing to irrigation, reduction of harvest losses, and the provision of high produce quality, while strengthening the material and technical base of its processing and storage.

Fulfillment of the goal in the area of cattle raising ought to be realized by raising cattle and poultry productivity and the growth of their stock, the efficient use of feed, a significant improvement in cattle care and feeding specifications, perfection of breeding work, mechanization of labor-consuming processes, and the introduction of progressive technology.

The outstripping development of feed production is a decisive condition for accelerating the growth rate in producing meat, milk, and other products of livestock raising. In 1980, it is planned to increase the production of all kinds of feed by more than 10 million tons of feed units compared to 1975. The sales volume of concentrated feeds to kolхозes and sovkhozes from state reserves will grow significantly. About 15 million tons more of them will be supplied for cattle raising needs than were allotted in 1975.

The rational use of feed is especially significant during the wintering period of cattle. On farms of the Kazakh, Moldavian, Latvian, Armenian, and Belorussian SSR's, more feed has been laid in for the 1979-1980 cattle wintering period as compared with the previous wintering. Although significantly less feed has been laid in throughout the country as a whole, compared with last year, according to research data of the agricultural chemical laboratories, its quality is higher. Based on existing feed reserves at each kolhoz and sovkhoz it is necessary to strive to that the rations of cattle feed will be balanced in protein, carbohydrates, and minerals.

It has been established in many studies that during the intensification of cattle raising and the conversion of the field to industrial technology, the significance of the phosphorous supply problem increases. Cattle need to receive phosphatiferous mineral supplements in sufficient amounts to eliminate phosphorous deficiency and improve ration quality in the winter barnyard period.

In 1980, the continuing conversion of the farms to an industrial framework--further deepening of production specialization and concentration, increasing efficiency based on the introduction of highly productive equipment and progressive technology, and realizing interfarm cooperation--will remain one of the important trends in developing cattle raising. For some time now, the introduction of the production line shop system of organizing the production of livestock products has gained widespread growth according to the example of L'vovskaya oblast. More than 1,000 dairy-cattle farms have been converted to the new system of operation.

...the development of the total economy of the USSR and the USSR's role in the world. The development of potential, supplementary farms of the supplementary, private, collective and other types. Personal supplementary farms play a significant role in product production. Here up to 20 percent of the potatoes are produced, 20 percent of the vegetables, 10 percent of the fruits and berries, 10 percent of the meat and milk, 10 percent of the eggs, 20 percent of the wool, and a significant amount of other products. The relative production share of this category of farms in the total value of the country's gross agricultural production is 20 percent. Some 1.2 billion hectares of land have been allotted to the population for personal supplementary farms, including 1.2 billion hectares of pasture and 0.2 billion hectares of perennial plantings (20 percent of the country's orchards and vineyards).

In the population's personal supplementary farms, 23.1 million head of meat cattle will be kept (including 13.1 million cows); 14.8 million sheep; 10.7 million sheep and goats; and 172 million head of poultry. In the USSR's economic and social development plan, 11.7 million piglets and 177 million young birds as well as about 1.5 million tons of mixed feed from state reserves are specified to be sold to the population by collective and individual farms in the current year.

Strengthening the production of meat and meat products has been defined as a strategic problem for the party and government. The supplementary farms of individual citizens ought to make a substantial contribution to satisfying this problem by organizing cattle raising and fattening with the extensive use of by-products of food, meat, dairy, and other branches of the industry as well as the natural fodder of these farms' and other farms' available lands.

Strengthening the bond of science with agricultural production and increasing the quality and the acceleration of scientific developments play an important role in developing the Soviet economy and accelerating scientific and technical progress. "Today I would like to just emphasize and we need to continually intensify our attention to scientific research institutions, strive to raise the effectiveness of their work and improve the speed of the introduction of science's achievements into production, doing so in a good, planned way", stated Comrad L. I. Brezhnev at the July (1970) Plenum of the CC CPSU.

More than a billion rubles are being allocated for developing agricultural science in 1970. This will make it possible to strengthen the material and technical base of agricultural scientific research institutions and working centers, open up scientific research work even wider, create conditions for the fruitful activity of scientists, raise the efficiency

1. L. I. Brezhnev, "On the Further Development of the USSR's Agriculture", Address at the CC CPSU Plenum, 3 July 1970. Resolution of the CC CPSU Plenum, adopted 4 July 1970. Moscow, Politizdat, 1970, p. 10.



in scientific research, and accelerate the introduction and the achievement of science into agricultural production.

stipulated for 1980 by the plan is: expansion of the scope for introducing progressive corn production technology in an area of a million hectares (this was 180,000 hectares in 1979); the planting of up to 41 million hectares of new varieties and hybrids of grain crops; increasing to 2.2 million tons the harvest of raw cotton by machines; and other products of agriculture and cattle raising. New materials and technical resources will be introduced in land reclamation construction which will make it possible to reduce water loss and to consume it more economically.

In 1980, the area of irrigated intensive orchards will grow and the stock of hybrid eggs and poultry will increase, which will have a substantial influence on increasing their productivity.

Along with further increasing production, special attention ought to be given to raising the quality of agricultural produce. The November (1979) Plenum of the CC CPSU pointed out the importance of this problem. In an appearance at the Plenum, Comrade L. I. Brezhnev emphasized, "Planned values as well as prices ought to determine quality to a far greater degree."

In this connection, it is necessary to intensify organizational work in kolkhoses and sovkhoses for initial preparation of agricultural produce and its storage.

Along with fundamental agricultural production, the process of industrial activities in processing perishable agricultural produce (vegetables, fruits, grapes), production of mixed feeds, and so forth, has become ever more widely developed in recent years on kolkhoses, sovkhoses, and inter-fero enterprises.

The industrial activities of farms are closely connected with developing the basic branches of agriculture and they actively promote a reduction of agricultural produce losses and an increase in the output of popular consumption goods.

In developing agriculture, significant material and financial resources are invested, just as always. Therefore, using them with the greatest possible return is a fundamental goal of agricultural organs, kolkhoses, and sovkhoses. The careful and economical use of all material and technical resources and all the enormous potential the agricultural branch depends in many respects on the level of economic work in the village and consistent strengthening of cost accounting on kolkhoses and sovkhoses.

"The social policy of the party and Soviet government," said Comrade L. I. Brezhnev, "is to bring the peasant's labor and a worker's labor



over direct assistance to the country, living conditions in good order, and to raise the culture of rural life.<sup>92</sup>

Stimulated in the economic and social development plan for 1980 is the development of the nonproductive sphere of the village (construction of dwellings, schools, child preschool establishments, hospitals, clubs, roads, etc.) which will improve the living conditions of kollezhniki and machine workers. Capital investments 7 percent greater than in 1979 are being allocated towards this goal. Further growth in agricultural wages is being contemplated for implementation. Average monthly earnings of machineists will go up to 151 rubles, and on kollezhniki to 110 rubles.

Resolving the problems specified by the plan requires further development of socialist competition, which ought to be channeled towards procuring and putting into action all the reserves of agricultural production. Competition ought to be directed towards introducing the achievements of scientific and technical progress into production and, on this basis, the attainment of high end results.

Right now, the efforts of agricultural organs, kollezh and machine managers and specialists, and all agricultural workers ought to be channeled towards realizing the resolutions of the November (1979) Plenum of the CCPSU and the theses and conclusions set forth in L. I. Brezhnev's speech at the Plenum.

The aim of each country, worker and each worker of the scientific research institutions, enterprises and departments which are connected with agricultural production and which ensure its intensification is to make a worthy contribution to fulfilling and surpassing the goal for 1980 and for the five-year plan as a whole.

SPYRIAN: *Izdatel'stvo "Kolos", Ekonomika SSSR Khosvaystva", 1980.*

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Footnote: "The Lenin Path" Speeches and Articles, Vol. 2  
Moscow, Politizdat, 1970, p. 57.

REPORT ON AGRICULTURAL-SCIENTIFIC CONFERENCE FOR BELORUSSIA, BALTIC ZONE

Minsk DZ'BYAYA GAZETA in Russian 22 Jan 80 pp 2-3

[Article: "What Is in the Arsenal of the Farmer"]

[Text] As has already been reported in newspapers, on 16-17 January of this year Minsk was host to a scientific-production meeting that dealt with the subject, "Raising the Effectiveness and Resistance of Agriculture in Belorussia, Lithuania, Latvia and Estonia." It was organized by the USSR MAB (Ministry of Agriculture) and by VASVNI (All-Union Lenin Academy of Agricultural Sciences).

It was noted at the meeting that in fulfilling the decisions of the 25th CPSU congress, of the July 1978 and the November 1979 plenums the kolkhozes and sovkhoses of Belorussia, Lithuania, Latvia and Estonia have been achieving higher and higher indicators in the production of farm and animal products by means of intensification and increasing the effectiveness of agriculture. In four years of the current five-year plan the yield of grain crops, for example, was 22.6 quintals per hectare in Belorussia, 24.6 in Lithuania, 20.7 in Latvia and 26 in Estonia. Notable success was achieved in raising the productivity of potatoes and other crops.

Scientific-research institutions have developed and introduced into production organizational-economic measures and progressive technology for farming, feed production and livestock farming. They have developed a number of highly productive varieties of agricultural crops. The extensive utilization of scientific developments in specific conditions and the experience of leaders and innovators of fields has enabled a large group of enterprises to produce large harvests even during last year, which was very unfavorable in weather conditions. Among them are the Osmolitskiy Kolkhoz of Pinskiy Rayon, Kolkhoz imeni Gostello of Minskiy Rayon, Svetlyy Put' Kolkhoz of Molodezhninskiy Rayon, Progress Kolkhoz of Grodzenskiy Rayon in Belorussia, the Tervete Kolkhoz of Dobeleshkiy, the Uzvara of Raushkiy rayons in Latvia, the Narvany of Ioniškiy Rayon, the Kolkhoz imeni Smerchov of Endavinskiy Rayon in Lithuania, the Vinni Experimental-Demonstration Sovkhoz of Rakvereskiy Rayon, the Experimental-Demonstration Sovkhoz imeni Lenin of Tartuskiy Rayon of Estonia and dozens of other enterprises.

in making a positive evaluation of the scientific and practical achievements achieved in the intensification of farming, the participants of the meeting noted that the level of production of agricultural products in Lithuania, Latvia and Estonia still does not fully meet the needs of today and the potential possibilities and capital investments in agriculture. In a large number of enterprises and favens even during good years not all resources are utilized to raise the return on each hectare, and under adverse conditions the yields drop sharply.

The speakers of the ministers of agriculture of the Lithuanian VASKH, the republicans, of the Estonian VASKH-A. Myannik, of the deputy minister of agriculture of the Latvian VASKH-A. M. Starovoytov, of the Latvian VASKH-A. M. Spruzs, of VASKHNI, academicians E. N. Kalashnikov, P. V. Aleksey, G. M. Verkhovskiy and M. M. Gerverov, of VASKHNI, corresponding members A. I. Zhukovskiy, of the chairman of the Progress Kolhoz of Rudnenskiy Raion, A. I. Gerasimov and others and the resolutions and recommendations made at the conference present a number of measures to raise the effectiveness and resistance of farming. Of priority is the problem of the overall improvement of soil fertility, improving its physical properties and agricultural husbandry and the optimization of the water and air regime. The experience of Belorussia experience dry periods or temporary periods of surplus moisture almost every year. On mechanically light soils plants frequently suffer from a shortage of moisture, on heavy-troughed soils almost 50 percent of the arable land here is of this type.

Belorussia has been called upon to secure the regulation of the water regime, which is optimal during all periods of plant vegetation and during years that differ in meteorological conditions. In the republic 1,000,000 hectares of land have already been drained. The most effective technique is the furrow regulating equipment on an area of 40,000 hectares, which is only 11 percent of the reclaimed lands. A great but still insufficient resource for raising the productivity of agricultural crops is sprinkler irrigation. Sprinkler systems exist on only 10,000 hectares. Cultivational work is being performed slowly in the republic.

Belorussian reclamation workers must more actively utilize the experience of other Lithuanian villages in regard to improving lands and raising the quality of work. It is necessary to significantly raise the scientific level of planning the building and operation of drainage-irrigation systems, to give more attention to irrigating and removing excessive reclamation systems. In order to meet this goal and to produce an output of 10 tons of milk per hectare already this year and 60 tons in the next future farmers themselves have a great deal to do. For this it is necessary to get highly productive crops on reclaimed lands, to increase the range of intensive varieties and to cultivate them according to all the rules of agrotechnology.

The most effective factor to raising soil fertility is the growth of supplies of organic matter in the soil to an optimal level. On highly-irrigated soils that are enriched with humus not only are yields higher

and their utilization is smaller than on poor soils. For this reason the importance of production of manure and compost, an improvement in their quality as well as an increase in the sowing of clover and alfalfa as crops that enrich the soil with humus are priority tasks for all kolkhoses and sovkhozes under conditions of production intensification.

The consumption level of organic fertilizer has reached 11 tons per hectare of plowland in Belorussia. This is close to scientifically-based norms. Nevertheless, even this does is not the limit. It is essential to reach the application of 16 tons of compost per hectare of plowland. For this it is necessary to procure and apply up to 80 million tons of organic fertilizers per year. It is especially important to increase the dosage for winter crops and to plow in more compost into the late-fall plowed fields, as is done in the Baltic republics. The plowing under of up to 30 percent of the organic fertilizer during the fall will significantly accelerate the completion of spring field work. In a number of cases a no less important resource is raising the quality of the compost, observing the technological rules for its procurement, storage and application into the soil.

Very instructive are the practices of the Ozenishitskiy Kolkhos of Pleskitskiy Rayon, where 80,000 tons of high-quality compost are already being applied to the soil. Such doses enabled the enterprise to deepen the plowing layer to 15 centimeters and to increase the humus content in the soil to 1 percent. Much attention to organic fertilizers is given by the Progress Kolkhos of Voznesenskiy Rayon, the Kolkhos imeni Dikhora of Brestskiy Rayon, the Zvezda Lenina Kolkhos of Maloritskiy Rayon, the Rossiya Kolkhos of Ivatkevichskiy Rayon, the Brilovo Sovkhoz of Smolenskoy Rayon, the Let'ye Experimental Base of Orshanskiy Rayon and a number of other enterprises. The experience of these leaders must be most broadly disseminated.

Considering the exclusive and irreplaceable value of organic fertilizer in raising the fertility of fields, it is essential to have each enterprise and livestock farm plan the production volume for manure and compost as well as for milk and meat. We cannot tolerate an attitude toward manure as a by-product any longer, as the waste products of production or worse, as the sewage of livestock-raising complexes.

As was emphasized at the conference, a great resource for increasing the productivity of all crops and for raising the stability of farming is the rational utilization of the ever-increasing supplies of mineral fertilizers, liming materials, and chemical means of plant protection.

In Belorussia the basic questions of chemization have been worked out within a scientific framework and are being dealt with correctly. The results of this have already been felt. In 1976-1978 each kilogram of nutritive matter applied into the soil yielded an increase of 5.6 kilograms of grain, which is 0.8 kilogram more than the average for the years of the Ninth Five-Year Plan. Only by raising the effectiveness of mineral fertilizers the republic has received an additional 1.2 million tons of farm products in grain equivalent each year.

in the use of it is necessary to significantly raise the quality of application of mineral fertilizers and liming materials. Many enterprises and farms (especially tractor stations) to determine dosage and the rate of application without a consideration of the specific properties of fields and the needs of the crops being cultivated. Fertilizers are applied unevenly and large quantities are lost during shipment and storage. And many farms have introduced the progressive belt method of applying mineral fertilizers. There are frequent violations of the schedule for performing mechanical cultivations of the soil. Specialists have many suggestions about the technology for utilizing the means of chemization

according to the opinion of the participants at the conference, special attention should be given to the application of fertilizers to feed lands. At the present time in Belorussia, for example, insufficient quantities are introduced on haylands and pastures. This is one of the reasons for the underproduction of feeds. Twenty-four enterprises have been conducting trials this year on the redistribution of mineral fertilizers for 1 year and with the goal of supplying them to feed lands. The first results have shown that these and other measures have enabled them to sharply increase the productivity of meadows. Their average productivity in these enterprises was 30 quintals of feed units per hectare, and the return on 1 kilogram of fertilizer was 11.6 kilograms of feed units. The goal is to increase the dosage of fertilizer application on improved haylands and meadows. This will enable us to significantly raise the productivity of agriculture.

Significant work remains to be done to improve and universally introduce and production the industrial forms of agrochemical services for collective and state farms, to create centers and points of chemization, and to strengthen the material base of the newly formed kol'chozstenniki (Agricultural Machine-Association) associations.

The widest arsenal of agrotechnical, chemical and other means available to the grain farmer for increasing the strength of the harvest should be directed toward achieving the key goal--increasing grain production. The 20th Congress of the CPSU of Belorussia established the goal of increasing the gross grain output of the republic to 9.5 million tons with a yield of 32 quintals per hectare in 1965, and to 40-45 quintals by the end of the 11th Five-Year Plan. As a result of the meeting, despite the fact that grain crops in the collective and state farms of Belorussia already occupy 91 percent of the arable land, it is possible to expand them. In Brestskaya and Gomel'skaya regions the average standard weight of grains can be 4-4.5 percent higher than in the republic as a whole.

The results of last year showed the urgency of further improving the conditions of the grain fields. Taking into account that under extreme weather conditions on soils of a light mechanical composition, which in Belorussia occupy one-third of the arable lands, the crops that suffer most are winter grains, the conference participants recommended an increase in winter grain crops on such lands. In order to eliminate lags in the production of high-protein legume crops a recommendation was made to expand them.



The correct selection of varieties means a great deal. Under unfavorable conditions the yield of each one of them is determined by its plasticity, resistance and potential productivity. It is the task of breeders to develop varieties that respond well to the application of large doses of fertilizers, that are resistant to a complex of diseases and pests, that do not lodge and that are fit for mechanized cultivation and harvesting. During the 11th five-year Plan scientists will have to supply production with high-quality varieties having a yield of 60-70 quintals per hectare for winter rye, 70-80 for winter wheat, 60-80 for barley, 55-60 for oats, and 25-35 for lupine.

With a view to reserves for increasing and stabilizing grain yield, the conference participants indicated a series of other organizational and technological measures. It is essential to give more attention to seed farming, to move actively over it to an industrial base, to create full-scale transitional funds of grain seed and especially of perennial grasses, to introduce irrigation of elite crops, to more broadly utilize leading experimental methods and to improve the quality of plant protection from weeds, pests and diseases.

As stated at the meeting, the effectiveness of farming is directly related to the level of use of technology. At all levels of fighting for the harvest the organization of field work is the determining factor. But in this sector there are still many basic shortcomings, great errors and violations. As a result of the violation of the sowing schedule, the untimely care of crops and lags with harvesting operations the republic underproduces a large quantity of grain, potatoes, flax, sugar beets and feed crops. We must make broader use of the experience of Brezhnevskaya Oblast and especially of Leningradskaya Rayon in the introduction of complex harvest-transport detachments, the experience of Lithuanian in feed procurement according to agroecological technology. In particular this is in regard to the preparation of viticultural grain seed. We must make use of the practices of many rayons in creating and using wide and combined units, in improving standard equipment and mechanisms.

Science plays a large role in raising the effectiveness and stability of farming. In recent years the material base of agricultural scientific institutions in the republic has grown stronger. At the same time the network of institutes, testing stations and experimental bases does not always correspond to requirements. A great deal remains to be done to make scientific elaborations more thorough, to introduce complex solutions to the most important problems in farming and to rapidly introduce the results of research for general use. This will help grain farmers in the republic to produce large and stable harvests in any weather conditions.

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1970 11/24

BRIEFS

**GRAIN RATE RESTRICTIONS PROTESTED**--Washington, 16 February--Groups of American farmers are again beginning to arrive in Washington, as they did a year ago. The farmers intend to make a resolute protest against the U.S. administration's agricultural policy. A grave blow was inflicted on American farmers, especially those who specialize in grain production, by the unpopular White House decision to restrict grain exports to the Soviet Union. This was discussed today by farmers interviewed by CBS television. Why must we pay for the administration's decision and make sacrifices alone? one farmer from Colorado legitimately asked. When it curtailed grain deliveries to the Soviet Union the government promised to make good the farmers' losses, but that turned out to be another deception. The administration is only covering the losses of big companies which had brought up large grain consignments, while the farmers remain practically without compensation. The grain speculators have taken advantage of this and are now buying up grain from the farmers at giveaway prices. [Ye. Yegorov] (Excerpt) [Moscow SRA'SKAYA ZHIZN' in Russian 17 Feb 80 p 3 LD]

#### METHODS FOR REDUCING AGRICULTURAL LOSSES

Moscow *IKONOMIKA SEL'SKOGO KHUZYAYSTVA* in Russian No 1, Jan 80 pp 9-16

[Article by I.K. Knyazev, first secretary of the Kurgan Oblast of the CPSU: "Blocking All Avenues of Losses"]

[Text] Kurganskaya Oblast is a great supplier of agricultural products. The kolkhoses and sovkhoses here have been assigned 4.5 million hectares of agricultural lands. Every farm has more than 8,000 hectares of plowed fields, which includes more than 5,000 hectares of land planted with grain crops. In carrying out the agricultural policy of the CPSU, the agricultural workers are constantly increasing the rates of production. Thus, in the years 1976-1978 the average yearly volume of gross agricultural production was increased by 20 percent in comparison with the same production in the years 1971-1975. In 1978 the kolkhoses harvested an average of 18.9 quintals of grain per hectare. The gross yield amounted to 3.5 million tons of grain. The state was sold 1,516,000 tons of grain; 153,000 tons of meat; 520,000 tons of milk; 179 million eggs and 3,206,000 tons of wool.

Having extended the socialist competition for the achievement of ever higher goals, the agricultural workers obligated themselves in the fourth year of the current 5-year plan to harvest grain crops at the rate of 19 to 20 quintals of grain per hectare, to increase the volume of production and the sale of meat to the state by 13 percent and to provide for significant growth in the production and sale to the state of other livestock products.

The oblast and rayon party committees, the primary party organizations, are doing everything to provide for steady development in agricultural production and to bring unused reserves into action. Moreover, the attention of the party and soviet organs and of the managers and specialists of the agricultural, procurement, transport and processing enterprises is directed toward strengthening the battle against poor management and negligence and toward preventing product losses both in the production stage and during transportation, processing and storage.

In their efforts to raise production efficiency, the party organizations depend first and foremost on the experience and authority of the communists, the leading workers and innovators of production. This is how the machine

...in the summer "no harvest" lots of harvest later A. V. Stroganov...  
...the year of a communist in raising the quality of work and in...  
...The labor of many people is invested in at least of grain...  
...economists, accountants, scientists, and so on. To ignore the small...  
...loss many quintals of grain. Mass competition by...  
...high quality work in the grain fields is necessary...  
...as a communist to work excellently, to hold...  
...the same results and not to let the unscrupulous and...  
...along with it."

...is right! Though his initiative in the subject the...  
...competition is already in its third year under the motto...  
..."For work field, the name of quality." Having started in one brigade, it...  
...in many farms and in whole regions. The conditions of the...  
...taking into account acquired experience. All this...  
...the professional expertise of the machine operators...  
...the quality of their work in the fields.

...is the main agricultural product in the oblast. The development of...  
...and growth in the fertility of the fields command the attention...  
...of all agricultural workers of the Transural zone...  
...conditions and standards of production are being...  
...improved. The arsenal of the farmers is being expanded with...  
...methods. Agricultural equipment is being developed and the...  
...of sown fields is being improved.

...of the oblast of the CPSU, the Republic of...  
...the People's Deputy, the President of the oblast council...  
...and the bureau of the oblast of the Transural established...  
...the distinguished grain grower Terenty Semenovskiy Mal'tsev...  
...the farm, here, agronomist and machine operator for...  
...the highest grain-crop yield, for increasing the production and...  
...of grain and for implementing the achievements of science...  
...and advanced methods of organizing labor and production...  
...for the right to be a V. I. Mal'tsev prize winner...  
...to raise the quality of work in the fields, but...  
...efficiency on the whole, specifically to increase...  
...without losses.

...in the production of grain still exist and at times are big...  
...a great difference between biological and...  
...productivity. In specific fields it sometimes reaches 20 to 30 per...  
...when large areas of wheat, which promise 15 to 20...  
...are lodged by a light wind and rain without...  
...rain from lodged plants, as a rule, is not filled out...  
...Harvesting such grain is also difficult. In rain...  
...drier covering of lodged plants and...  
...the harvest is delayed and the grain often begins...  
...A portion of the crop is lost when harvested under

these conditions. The loss of only 1 quintal of grain per hectare during the harvest can amount to 100,000 tons for the oblast as a whole.

Yields and losses of grain, as paradoxical as it may be, occur more frequently when the soil fertility is higher, when the preceding crop was better and when the summer weather conditions are more favorable. And this is all due to the fact that a significant part of the spring wheat fields are planted to varieties which are incapable of taking full advantage of high soil fertility.

With the climatic conditions of the Transural area, with widespread implementation of the cultivation system proposed by T.S. Mal'tsev and with the conditions of general intensification of agricultural production, local varieties of spring wheat of the intensive type are needed, varieties which are highly productive and resistant to lodging and drought. The breeders of the Kurgan Scientific Research Institute for Grain Production are working steadily on creating such varieties.

In just 3 years the small collective of the breeding division directed by candidates of biological sciences V.V. Lisich and the workers of the Shadrinskaya experimental station headed by T.S. Mal'tsev created a unique genotype of wheat with a potential productivity of 50 to 60 quintals per hectare. A new variety of spring wheat, Shadrinskaya, was also created which exceeds the crop yield of the variety grown in the oblast by 3 to 5 quintals. In addition, plants of this variety are resistant to lodging and drought. This variety has been regionalized in the Kurganskaya Oblast since 1979. The new varieties of wheat, Kurganskaya, Vera and Transural, are undergoing state and production testing. Other varieties of grain crops of the intensive type are being widely introduced on farms in the oblast.

In 1975 a breeding center for spring wheat was created. A program for breeding work through 1990 was worked out which was approved by the Scientific Council and the Scientific and Methodological Management of Breeding Centers of the presidium of the All-Union Academy of Agricultural Sciences (VASKhNIL).

The scientific and production association "Elita" was created in the Kurgan Scientific Research Institute for Grain Production for the purpose of speeding up the output of new varieties. Included in it are four experimental production associations which are located in various areas of the oblast. The association farms are able to sharply increase the production of Elita seeds and first crops. For example, in 1979 three times more such seeds were sold to the kolkhozes and sovkhoses than the average per year for the preceding 5-year period.

The introduction of new, drought and lodging resistant varieties of spring wheat and other grain crops of the intensive type will permit the kolkhozes and sovkhoses of the oblast to produce at least an additional 400,000 tons of grain per year through increased crop yields and reduced losses.



A significant portion of the grain is lost through the operation of harvesting and threshing machines which have not been checked for efficiency. These machines are assembled and assembled at an object machine for engineering, they are examined and checked on a conveyor and they begin to thresh the grain, placing it into the hopper or the threshing attachment. And what was the result? A large quantity of grain remained on the threshing which had not gone into the hopper. The operations are usually checked by the operators, have shown that the best of losses of grain without supplemental preparation of the harvesting machine during operation reach 1.5 to 2 quintals per hectare. Now before the harvest on all farms supplementary feeding of the grain harvesting machines is provided. This afterwards is the equipment permitted to operate.

It should be pointed out that not all producer plants devote the necessary attention to checking structural deficiencies in grain harvesting machines. The large state farms have an especially large number of complaints against the efficiency of the "Nisiryak" combines. This is particularly pronounced in the Tatarskaya farms because more than half of the combine fleet in the object is made up of that model of machine. The grain harvest in the object takes place in poor weather. The "Nisiryak" combines were designed well in the weather conditions when the grain moisture is not higher than 25 to 35 percent. After light rains, the appearance of dew or cooling during the night after a hot day, when the crop becomes damp, there are very considerable losses of grain when it is threshed with "Nisiryak" combines.

The present fleet of these models of grain combines is also inadequate as a result of which the grain crop harvest is drawn out to 1.5 months, while plants have to do it in 10 to 15 days. The grain growers need a highly productive harvester which is capable of harvesting grain under the difficult weather conditions of the Tatarskaya area without losses. The combine designers need to look very much about this.

In working the harvesting workers do not get off with arms raised in expectation of some miracle. The farm managers, specialists and machine operators are constantly seeking the ways to reduce harvest losses and first of all to reduce the expenditures of harvest operations.

For the first time in the object, the large group, continuous method of harvesting and threshing grain was employed on the "Kamagorod" farms. An examination of harvesters made it possible to improve equipment and working conditions for the machine operators and the supply of grain and fuel. Opportunities for operational management of the entire collection of machine operators and for constant supervision of work quality and quantity. As a result of this grain fields amounting to 10,000 hectares were sown in 5 to 6 working days and were threshed in 8 to 10.

The harvest of the party object, having generalized the operational method of the "Kamagorod" farms (today the author meets with Andriyevskiy in the field), wishes to share for its widespread distribution, with each working

and the number of employees of the Kurganskaya workers increased in the region. The initiative of the Kurganskaya workers of the Stavropol' oblast also gave a new, powerful impulse to the implementation of the overall method of harvesting in the Kurganskaya Oblast. Continuous processing methods for all types of field operations are now widespread throughout the farms of the oblast. Political and mass work has improved. Cultural and domestic service units have been created.

A majority of oblast farms at the present time, where natural conditions permit, harvesting equipment is utilized within large mechanized teams and combineage. This provides for sharp reduction in losses of harvested grain and reduces the expenditures of labor and resources per unit of production.

Grain processing after harvesting is necessary under oblast conditions. There are 600 mechanical grain cleaning stations in operation on the kolkhozes and sovkhoses with a total daily capacity of 140,000 tons of processed grain, which makes it possible to clean all the grain in 20 working days.

A complex for processing plant growing products was created on the kolkhoz "Zvezda" in the Kurganskaya Oblast. Moist seed material is dried in large ventilated hoppers and then grain is sorted and loaded for storage which will later be processed into mixed feed as it is needed. During the summer feed is dried here artificially. Silage is loaded nearby. In the winter potatoes and granular feeds and complete feed mixtures are prepared in the feed plant here.

Until recently large amounts of grain were lost during storage at grain receiving enterprises. Today the network of grain receiving points is made up of complexes of grain elevators with the capacity of warehouses which are equipped with modern machines making possible the mechanization and automation of all processes involved in receiving, loading and processing grain. A powerful drying facility was created. The production capacities of the grain receiving enterprises make it possible now to receive and process all grain of any moisture content without losses and to bring losses due to heating and spoiling to a minimum both on the farms and in the grain receiving enterprises.

Work is being done on the farms to reduce losses of incoming mineral fertilizers. In 1971 an oblast scientific production association for the agricultural service to the kolkhozes and sovkhoses was created, which included research laboratories and specialized agrochemical departments organized in the regions.

A large, mechanized base for receiving, processing and shipping fertilizers was put in operation at the Kurganskaya railway station. The construction of a similar base is nearing completion at the Vargashki station. The number of points for unloading fertilizers on railroad lines has been reduced by one-third. Fertilizers are transported from station points on industrial cars.

Machine gun, etc. were used for the most effective elimination of insects in the summer with scientific recommendations which took into account top soil characteristics and the agricultural crop being cultivated. All this had a positive effect on the crop yields. Thus, more than 60 percent of grain per hectare were harvested in 1978 on the tobacco "Ruslan" in voluntary farms. Effectively utilizing fertilizers, the workers of the same farms achieved an increase in the yields of the summer crop (cucumbers and melons) about 8 percent in the Mladomirovo farm achieved a grain harvest yield of 30 tons of potatoes. The agricultural workers made extensive use of new methods in localized application of fertilizers, application of green manure, particularly aimed with the seeds either in the form of a "green" fertilizer during inter-row cultivation or by "injection" into the soil using special seed drills. Fertilizer spreaders are used only for applying fertilizers powder and gypsum.

The only (1978) plan of the CPSU Central Committee has charged the state enterprises with raising the production of meat. The major work has been directed towards efforts to increase the consumption of the serious groups of 1978. As a result of the 10th Five-Year Plan, in comparison with the same period of the 9th Five-Year Plan, the average yearly production of meat grew in 1978 more or less 12 percent. In 1978 the growth in the volume of meat production was about 100,000 tons or 13 percent of the volume of production in 1977.

The CPSU members have been turned out to all regions for increasing the production of meat and other livestock products and for supervising their implementation. Attention is being paid to the supervision of the major and minor farms. Other groups for the livestock breeders have been introduced into the work. A special duty is placed in the live weight of the livestock for the month. A special notation is made in the order concerning the fulfillment of the monthly quota. The results of the farm operations are submitted in detail each month to the rayon party committee. Then they are presented in the special economic bulletin. This means it is possible to analyze the livestock business, to precisely manage the production process and to correct distortions in operations and, consequently, production process.

The CPSU members are engaged in raising production effectiveness and improving the quality of operations to improvement in the organizational, political and work with the people, through which the better of the CPSU Central Committee for further improvement in ideological, political and educational work is directed.

Attention of workers is very closely tied to improvements in product quality. The importance of the farms and dairy industry enterprises has greatly increased in raising the quality of milk, for example. Here are the results of the operations in 1978. The rate of first-quality milk grew by 54 percent. As a result of the improvement in quality, the only price of a type of milk increased by 1.7 rubles. The enterprises and employees received an additional 100,000 rubles from the dairy industry. The inspection continued in 1979. Almost 90 percent of the milk is being sold as first-quality milk.

enabled to increase its production with the least expenditures and maintain the high quality depend primarily on providing livestock with full-value feeds. In 1978 the collective and sovхозs prepared 1,165,000 tons of raw and dried feeds calculated in feed units as 22 percent more than in 1977 and just about more than the really average for the 9th Five-Year Plan. However, these feeds are not of great quality everywhere; on individual farms, according to the results of laboratory research, the losses in feed nutrients amount to 20 to 30 percent. Hence, for example, corn silage. Often 1 kg of it contains not more than 0.7 feed units. One of the primary causes of low quality is the high moisture in the silage mass.

Under the conditions of the oblast, corn does not mature into seed. The farms require seed of the late-ripening type, and therefore, after 110 days of its growth, it has not even managed to form the grain and to accumulate a sufficient quantity of its substance. The farms are forced to harvest it during the ripening period with a moisture level of 80 to 85 percent. And the shortage of motor transport forces the farm managers to make the green corn more quickly available in order to free the motor vehicles by the beginning of the grain harvest.

With the goal of raising the nutritive value of corn silage and reducing the losses of nutrients in the silage, the farms are planting corn earlier, filling out the plantings with fertilizers and pulses and cereal crops and utilizing shredded hay, biological manure and chemical additives for the silage. The harvest on a number of farms is carried out by harvesting and transport combines which reduce its length to 7 to 10 days and, of course, lower losses.

However, if these measures do not solve the problems. In our opinion, it would be advisable for the USSR Ministry of Agriculture to adopt measures to provide the oblast with seeds of the early-maturing varieties of corn. It would also be advisable to turn the attention of the USSR Ministry of Tractor and Machine Building to the fact that the KS-2.6 silage combine does not accomplish the necessary shredding of the silage mass. The quality of the silage is reduced as a result of the poor compaction.

Efforts have been put in recent years to free oblast farms of concrete improvements in the method of drying hay and toward the implementation of advanced methods of preserving the full biological value of the initial raw material to the maximum degree. The feed production equipment presently manufactured in industry does not correspond to the scale of operations and is not designed for processing a large quantity of feed with the least expenditures possible. One of the processing methods utilized in preparing hay consists of many operations: rearing, raking, stacking, raking together, raking and transporting to winter storage sites and requires a large quantity of equipment and complex, multi-operation method to losses in the processed mass and to reductions in its nutritive value.

Many farms have switched to a new method of processing hay. Its essential feature is that a significant portion of the hay harvesting equipment is





The nearly half of the large plots on the farms is fed to cattle only in green form, hence the shortage of livestock products. The grain receiving enterprises and the combined feed plants of the grain products administration have the capability of accepting 150,000 to 400,000 tons of grain from the enterprises and combining yearly for conversion to combined feed. However, the combined resources are extremely insufficient.

Overcoming of the protein deficiency in feed is very important. Toward this end, steps for the production of carbohydrate concentrate have been built at the Kuznetsovskiy and Muraviovskiy interfarm combined feed plants. Two more such steps, the Kuznetsovskiy and the Stukhlininskiy, are being put in operation. With their operation the amount of carbohydrate concentrate processed will increase to 7,000 tons, which will provide for 20 percent of the livestock's need for it. Feeding with carbohydrate concentrate raises the increase in the live weight of cattle by 20 percent.

The beginning of industrial processing of livestock by-products is set. In 1970 the Stukhlininskiy meat and bone meal plant, with a capacity of 760 tons per year, began production. With its operation the ability to produce high-quality combined feed for hogs, sheep and poultry was greatly increased. In the next 3 years plan two more plants for the production of meat and bone meal and feed fat are scheduled to be built.

Expansion of grain importation and long range planning is the separation of feed production into an independent branch. On many kolkhoses and sovkhoses specialized services are being created which consolidate the land, the feed crop rotation, the equipment for the production, processing and preparation of feed and the processing enterprises and storage facilities. Specialists are in charge of the service. Last year such an organization for feed production in the Kuznetsovskiy Rayon demonstrated great advantages, made possible a significant increase in the volume of production and, most important, raised the quality of the feed.

The movement toward economical utilization of feed and reduction in their expenditures per unit of production, which was initiated several years ago by the complex "khozraschyot" system is included in the trust of the poultry industry; has become widespread in the oblast. The most important thing is to think all avenues of economical use of feed. Competitions have been conducted in recent years on the trust farms under the motto "For Efficient Use of Feed" and with the payment of prizes to the best farms. During the period 1971-1973 the comprehensive expenditure of feed for the production of 1,000 eggs was lowered by 8 percent and for an increase of 1 quintal of live weight of poultry raised for meat by 2 percent. In the period 1976-1978 these expenditures were reduced again by 2 and 5 percent respectively. And in the feed saved in the period 1976-1978, the trust farms were able to produce 15 million eggs and 100 quintals of poultry meat.

One of the main points the poultry farmers made in their pledges for 1979 was to reduce the expenditure of feed in the production of eggs and to increase the live weight of poultry. The workers of other branches of livestock breeding are following their example.

... possibilities of increasing the development of livestock  
breeding, for increasing the effectiveness of the system and for increasing  
space for further improvement in the ... and concentration of  
production and increasing of interfarm production communications.

... of specialized farms and interfarm enterprises has been created  
in the district. In 1978 the specialized farms produced 60 percent of the  
meat, nearly all the wool, 90 percent of the meat and eggs from poultry and  
nearly two-thirds of the milk produced by all the farms in the district. Such  
farms have significantly higher productivity of livestock and poultry and  
lower productivity and lower expenditures of feed per unit of produce. For  
example, in 1978 on the sovkhos "Kotlovskiy," 4,525 kg of milk were milked  
from each cow and the average daily increase in the live weight of cattle  
was 750 grams. The profit level for livestock breeding reached 55 percent.

... has been done in the district to raise production efficiency and to lower  
losses of agricultural products, however, not all resources have yet been  
utilized: a significant portion of agricultural and livestock production is  
lost during its production, processing and storage.

The district party committee sees its task as including improvements in the  
organization and methods of production, strengthening of the base for storing  
and processing products and engendering among the workers an economical at-  
titude toward valuable materials. In the future, while increasing the mobil-  
izing role of competition and intensively utilizing the rich arsenal of ideas  
from the workers' mass movement, the workers of the district and party organ-  
izations in the district and all the farm workers will achieve growth in the  
effectiveness of agricultural production.

... District Party Committee, "Kotlovskiy," "Kotlovskiy sel'skoye khozyaystvo," 1980

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... 1980

IMPROVED SOFFING PRACTICES FOR KIRGIZ DRY LANDS

From: "USE OF AGRICULTURE KIRGIZIA" in Russian No. 23, Vol. 7, p. 25

[Article by T. Abitov and V. Ponom, Senior Scientific Workers in Soil Science, Kirgiz Scientific Research Institute (KirgizII): "Use the dry lands intelligently"]

[Note: The decisions of the CPSU's XIX Congress and the July 1978 Central Committee Plenum resolution state that the main condition for the future development of agriculture is increased grain production.

One of the main resources for increasing grain production in Kirgizia is greater yields on the dry lands. Half of the republic's grain fields are on dry lands; in Chirchik Oblast this proportion is 70 percent. Of the 100,000 hectares of dry land in the oblast, approximately 2/3 are semi-arid. In the 70 percent of the dry fields are sown to small grains annually. During the last 5 years, these yields did not exceed 10-12 quintals per hectare (q/ha). In various years large areas sown to grain had complete crop failures or very low yields (2.0-2.5 q/ha) which did not even justify production expenses.

The sharp fluctuations in grain yields over the years resulted from variations in annual rainfall. Deviations from the norm were 30 percent or more.

During the last 5 years, about enterprises located on arid or semiarid lands were sowing berries annually on 20,000 hectares and obtained yields of 10-15 q/ha. Of course, this cannot meet the growing needs of the oblast for grain. Therefore, it is very important to use the dry lands each year in relation to the agronomic and meteorological conditions, including weather forecasts.

In this connection, we would like to share some research findings. The experiments were conducted in a dry zone of dark chernozem soil in southern Kirgizia. The silt layer had 2.0-2.5 percent organic matter and sufficient water capacity. Over many years, the average annual rainfall was 390 mm with variations from 200-400 mm.

Spring barley yields in this zone mainly depend on the amount of available soil water at the end of soil moisture before sowing. Mainly after sowing (in April and May) does not penetrate more than 40-50 cm and it mainly multiplies. Small grains have suffered above all from June drought, and rainfall leaves but the grain is beginning to mature. During this season, the presence of sufficient available soil water (accumulated over autumn and winter) is of critical importance for the plants (see table).

#### Table

Moisture of Soil Moisture Depth and Amount of Available Soil Water Before Sowing to Spring Barley Yields

Year	Soil Moisture Depth (cm)	Amount of Available Soil Water in One-Meter Layer (mm)	Spring Barley Yields (q/ha)
1970	110	120.2	24.3
1971	110	99.7	17.2
1972	70	40.8	4.2
1973	175	166.5	25.2
1974	90	139.6	23.4
Average	120	113.4	18.7

The lower the soil moisture in spring, the higher the yield of spring barley, on the contrary. Thus, in 1971 before sowing spring grains, the soil at all depths of 70 cm and the amount of available soil water per meter layer averaged 40.8 mm. The spring barley yield was 4.2 q/ha. With such a yield, raising spring grains did not justify production investment. Consequently, in years of unfavorable moisture conditions, it would be wise to enlarge the fallow acreage and reduce the small grain acreage.

Our observations established that the amount of available soil water is sufficient at the end of March and in the first ten days of April. Good spring barley yields (22.5-25.2 q/ha) were obtained when the soil moisture depth before sowing was greater than 140 cm. At such times, sowing of spring grains should be expanded and the fallow acreage reduced.

Spring fallow program on dry lands should do three main things: climatize lands, accumulate moisture and build up supplies of free nutrients in the soil. Experiments conducted by the Kirgiz Experiment Station for Spring Raising (Division of Dry Land Farming) showed that clean fallow succeeded in doing all three of these under conditions in the southern part of the republic. With its use, it is possible to build up supplies of soil

moisture which, hopefully, will assure steady harvests on dry lands even in the driest years.

In this connection, our scientists should pay attention to experiments done on dry lands in Canada where specialists believe that it is better to get a half harvest one out of two years rather than risk crop failure every year. They alter the grain crop acreage depending on moisture conditions. In a dry spring, their seeding rate is lower and large acreages are left under clean fallow. But when spring moisture supplies are good, the fields that were designated to fallow are sown with spring crops.

In our opinion, such an approach to using the semiarid lands of Uzbekaya which would allow maximum utilization of the agronomic and meteorological conditions every year and significantly raise the productivity of each hectare.

COPY-1000: Issatel'stvo "Ais-Tee", 1979

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## FILLING AND CHIPPING TECHNOLOGY

### WINTER CROPS FERTILIZED FROM THE AIR

Source: *SOVETSKAYA ROSSIYA* in Russian 19 Jan 80 : 1

[Article by G. Fedorov, special correspondent in Krasnodarskiy Kray. "Air plane Over a homeless Field"]

[Excerpt] Wheat and barley sown last fall in the Kuban--the leading crops in the area--are, unfortunately, spending the winter without their "warm blanket." We drove through the fields of a number of farms in the Timashevskiy, Novokhovotskiy, Primorsko-Akharskiy, and Ust'-Labinskii regions, but saw nowhere even a speck of white.

But what can be done for the winter crops if it is already past the middle of January, and there has been no snow--and there is still none. Sit and wait for mercy from the elements? No, indifference is not a characteristic of the Kuban farmers, who are recognized masters of the highest harvesting productivity in the country. And, indeed, the solution was arrived at collectively--conduct winter feeding of crops with mineral fertilizers on a broad spectrum.

The term, "feeding," from a scientific standpoint, is perhaps not very appropriate. Indeed, at this time the winter crops are in a state of dormancy; they are "sleeping." This means they are not able to assimilate fertilizer through their root systems. But, the crux of the matter lies elsewhere: as soon as the sun rises above the horizon, it warms the soil, immediately a process invisible to the eyes begins--the slow movement of moisture from the surface level of the soil downward. This dissolves and conveys to the roots a timely application of mineral fertilizer. The crops, gaining strength, actively progress in growth; the harvest will be a rich one. It would appear that winter feeding justifies itself quite fully, both from an agronomic and from an economic point of view.

Feeding of winter crops in the kray is conducted in two methods--from the air and on the ground. The fact that the fields are free of snow, indeed makes it convenient for the pilots of the agricultural aviation service: the green squares of winter grain very clearly stand out against the black background of fall-plowed fields. This permits precisely "aimed" fertilizer application with no mistakes.

The farmers are satisfied with the job done by the aviators, who have already applied fertilizer over an area exceeding a half-million hectares.

The following example is significant. During our conversation with the head of a section of the second Krasnodar association aviation detachment, A. K. Yanku, the phone rang. It was the head of the Yevskiy regional agricultural production control, A. K. Zemlyakov. After expressing his thanks for the outstanding work of the aviators, he requested that two more aircraft, in addition to the six operating on farms of the region, be dispatched. Now, that is genuine concern about the winter crops!

Right now, in January, if the winter grain crops are carefully examined, the rows of young seedlings become clearly visible.

Farms of the Ust-Labinskii region have a reputation in the Kuban for uniformly high harvest yields of grain. They have measurably exceeded the plan for the fourth year of the Five-Year Plan as regards production and sale to the state of grains, including hard wheat. According to the first secretary of the party raykom, N. A. Artvushchenko, the fertilizing of winter crops occupies a prominent position in the total range of agrotechnical methods for obtaining high yields in grain harvesting. By the middle of January, crops over an area of 20,000 hectares had already received this type of feeding.

Quite unusual operational information for winter time is reaching the Krasnodarskiy party kray committee these days concerning the course of field operations--in its entirety, three columns: "Plan for Feeding Winter Crops"; "Feedings Applied"; and "Including with Aircraft." According to the latest information, mineral fertilizers have already been applied to an area in excess of 700,000 hectares.

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USA: 1824

# BRIEF

**AGRICULTURAL TECHNOLOGY: CONCERN**—Concern among Czech grain farmers is much greater now than in past years. Because of the delayed harvesting in the fall, this spring they will see plowing of an extra 1.5 million hectares which could not be plowed for fall plowing, as well as the laying-in of hay ricks on 1.5 million hectares. Farm workers realize that success will follow the winter and spring and that great care in preparing his agricultural equipment for spring. The preparation of equipment for spring is particularly important attention to the tractors and combines of Czech. And, although maintenance work in most places began a month and half later than last year because of the late harvest, the fallback from the pace of the preceding year is not significant—two to three percent. And soon, even this gap will be eliminated. Spring is not far off. Farm workers must do everything they can to quickly put their equipment in good working order. The farm technicians of the district are called on to see to the condition of the equipment conditions for the maintenance and operation of agricultural machinery and equipment. [Excerpt] [Moscow PRAVDA in Russian 11 Jan 1954]

**AGRICULTURAL TECHNOLOGY: THE SANDS**—Aina-Ata—At first impression, it sounds impossible. The shifting sands of the deserts are alien to the farmers. Scientists, Aina-Ata researchers have confirmed this very deduction with the results of their observations over many years on the Mangyshlak peninsula. As it happens, the contiguity here of irrigated fields and orchards and the high level of sand helps to avoid salinization of the soil. The investigators reported that the sands, like a giant sponge, absorb the crop vegetation water, which, in the process, dissolves the salt. As a result, the saltwater moisture gradually percolates out of the fields into the depths of the sand dunes, where it joins slow flowing subterranean streams. The researchers have amassed a collection of types and varieties of agricultural crops which have the most promise for irrigated farming alongside shifting sands. These include millet, alfalfa, corn, tomatoes, as well as cotton, melons and apricots. [Text] [Moscow TRU in Russian 14 Jan 54]

**SNOW RETENTION--Orel--**The tractors are out in the winter fields of Orel'skaya Oblast'. Farmers have embarked on a massive program of snow retention. To do this, they employ large rollers which press down the snow. [Text] [Moscow TRUD in Russian 20 Jan 80 p 1] 9481

**COMPOST PROVISION--Ul'yanovsk, (TASS)--**In Maynakiy Rayon, hauling of organic fertilizers is provided by the fourth interfarm agroproduction detachment. Fifty tractors, half of which are "Korevians," as well as dozens of bulldozers, lift-trucks, and dump-trucks have been contributed by kolkhoses and sovkhoses for use by the detachment. It has delivered to the fields up to 10,000 tons of compost daily--much more than its quota called for. [Text] [Moscow SEL'SKAYA ZHIZN' in Russian 13 Jan 80 p 1] 9481

**SEED ECONOMY--Kurgan--**Kolkhoses and sovkhoses of Safakulevskiy Rayon were the first in their oblast' to get all of their seed in proper condition. Ninety percent of it meets the requirements of first and second class sowing standards. Much more seed of heavy-bearing, regional strains of wheat, barley, and oats has been saved by Transural grain producers for this year's sowing than was saved last year. For the first time, half of the wheat fields will be sown to new, highly productive varieties bred in the Novosibirsk and Kurgan regions. [Text] [Moscow SEL'SKAYA ZHIZN' in Russian 13 Jan 80 p 1] 9481

**PREPARATIONS FOR RICE PRODUCTION--Astrakhan', (TASS)--**This year, the area under rice on farms of Astrakhan'skaya Oblast' will be expanded by 2,000 hectares. The valuable crop will occupy 48,000 hectares of productive flood plain in the Volga-Akhtyubinsk valley. In the final year of the Five-Year Plan, the rice growers are committed to sell to the state no less than 115,000 tons of grain. Maintenance engineers have already prepared all sowing and till equipment for spring operations. Land reclamation experts are extending a great deal of assistance to the rice growers. Hundreds of mechanized detachments are renovating irrigation networks: they are putting canals in working order, repairing hydrotechnical equipment and pumping stations. [Text] [Moscow SEL'SKAYA ZHIZN' in Russian 19 Jan 80 p 1] 9481

**EXPANSION OF SPRING SOWING--Saratov, (TASS)--**Farmers have completed laying-in of seed for the spring sowing of five million hectares in Saratovskaya Oblast'. This year, grain fields will be sown primarily with highly productive, locally bred seed. A more reliable spring wheat, Saratovskaya-46, is replacing the well-known varieties, Saratovskaya-38 and Saratovskaya-36. The sowing of this variety has expanded two-fold. Spring crops of the hard wheat, Kraenokutok-6, will also be larger than last year. [Text] [Moscow SEL'SKAYA ZHIZN' in Russian 19 Jan 80 p 1] 9481

**IMPROVED SEED--Donetsk, 19 Jan, (TASS)--**Farmers of the oblast' have completed the cleaning of sunflower seed a month earlier than last year. Farms have begun treatment of seeding materials. Model seed storage facilities are being set up everywhere. Powerful heatgenerating units and drying apparatus are providing the necessary microclimate in storehouses. A special seed

treatment which increases their germination vigor and facilitates sowing is being employed. As past experience shows, these "heavy-weight" seeds increase yields at harvest up to three quintals per hectare. [Text] [Moscow SEL' SKAYA ZHIZN' in Russian 20 Jan 80 p 1] 9481

FERTILIZER APPLICATIONS IN OSETIYA--Ordzhonikidze, 19 Jan. (TASS)--Crop production detachments are at work in the fields of northern Osetiya. For this year's harvest, about 70,000 tons of organic fertilizer was brought in; part of the winter crop was fed with mineral fertilizers. In an attempt to increase crop productivity, the farms are employing some powerful technology. The machinery is operating in large groups which makes for a rapid pace in mineral fertilizer haulage. [Text] [Moscow SEL' SKAYA ZHIZN' in Russian 20 Jan p 1]

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